AL.1.1248
c.2

Diploma examinations program

How are students doing?

> *"The exams are tough. We set high standards for students and, in most cases, students are up to the challenge."*

CANADIANA

OCT 16 1991

The June diploma exam results are in. In all courses except for math, a higher proportion of students passed this June than in June 1990.

Also, many more students wrote – from 200 to 1000 more per course.

Teachers marking English and Social Studies exams report that students' writing continues to improve. In Biology and Chemistry, more students achieved the standard of excellence – which means 80 per cent or higher.

In math, the figures are different. Two per cent more students failed the Math 30 diploma exam this June, bringing the total percentage of students who failed the exam to a disappointing 34.5 per cent. When exam marks are combined with school marks, 19.1% failed the course. But more than 20 per cent of Math 30 students achieved the standard of excellence, an increase of about two per cent over last year.

"While we're pleased to see that students are doing well in most courses, the math marks are a concern," said Roger Palmer, Assistant Deputy Minister of Student Programs and Evaluation.

"The exams are tough. We set high standards for students and, in most cases, students are up to the challenge. In math, we expect students to know more than just the technical details of how to find the right answer. They have to be able to combine an understanding of math concepts, an ability to apply procedural skills and complete accuracy in order to get full marks. While a number of students are able to do the technical work, they have difficulty applying that knowledge to new situations or to real life problems. We've got more work to do." ✓

A moment of anticipation.

Minister's message

Alberta students have to be able to compete with the best in the world. That's why we set high standards in education, and that's why our students face challenging exams – exams that test not only what they've learned but also how well they can apply their knowledge to real life issues and problems.

Alberta is known throughout Canada and even the world for its leadership and excellence in evaluating students. We set exams that give students the chance to demonstrate what they've learned – and we put a lot of effort into making sure the exams are fair. Each question is carefully "tested" before it becomes part of a diploma exam. The exams are marked by experienced teachers from across the province.

Our students are our future. And we're all working together for that future. That's why we want you to know about the standards we set for young people and how well they are meeting the challenge. This issue of *How are students doing?* is only the first. Look for the next one in March 1992, when we'll report on the January diploma exam results.

Jim Dinning,
Minister of Education

What are they?

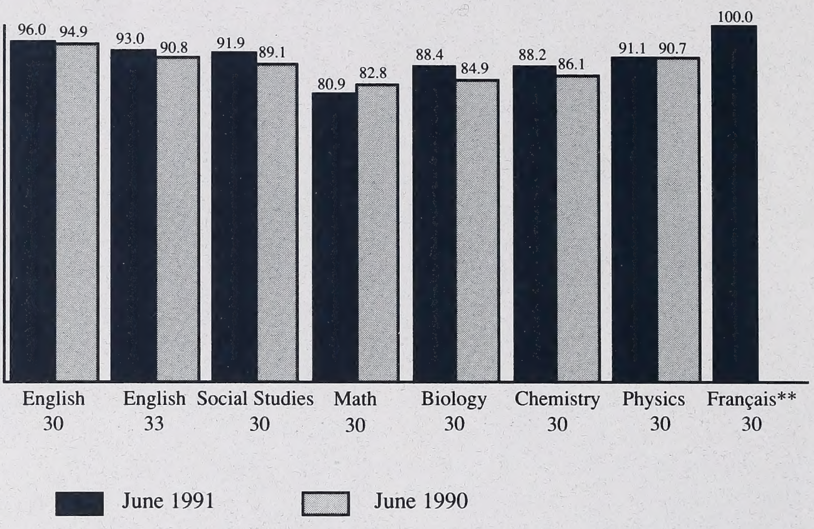
Chances are you hated them. Chances are you hoped they'd go away. But chances also are that you gritted your teeth and you went in there and you tackled them. What are they?

Exams! And while you're in school they're a fact. There are quizzes (there's also the dreaded surprise quiz), mid-terms, finals and for Alberta's grade 12 students, diploma examinations.

"What they determine is basically your future. The diploma exams are probably the most important exams that I will ever write," says Emily Jenkins, a grade 12 student who wrote her diploma exams in June. "You can't go too much further unless you attain a high school diploma."

Fifty per cent of a student's final mark in English 30, English 33, Social Studies 30, Math 30, Biology 30, Chemistry 30, Physics 30 and Français 30 is based on diploma exam results; the other half is determined by the classroom teacher. To receive an advanced diploma students must write a diploma exam in English 30, Social Studies 30, Math 30 and one of the three sciences. ✓

Percentage of Students Achieving Acceptable Standard*
School and Diploma Exam Marks Combined



*Acceptable Standard is 50% or higher.

**The results for the June 1990 Français 30 exam are not reported because only three students wrote the examination.

But are they fair?

Alberta Education's Student Evaluation Director Frank Horvath says "exams are something that few people like to write."

"But what we found is that students do like the diploma exams because they are fair; the use of a common standard helps to make them so."

Josh Aberant, a student who wrote diploma exams, says Horvath is on the mark. Comparisons based on teachers' grades alone, Aberant says, would be unfair, "because one student may have an easy teacher marker, while another may have a hard teacher marker."

"What I find especially fair about the exams is that if you had a bad day and you bomb an exam you can rewrite," says Amina Danial, another recent exam writer. "And they just count the highest mark."

Horvath suggests students head back to the classroom if they intend to rewrite an exam. Those who do, improve their marks significantly. Those who don't, end up with the same grade or lower.

"We took a look at Math 30 students. Seventeen per cent of the students who wrote the Math 30 exam last January had written the exam once before," says Horvath. "One in three students had just rewritten the exam, they did not retake the course, and their marks stayed the same. The students who received instruction raised their marks on average by 15 per cent."

Students can also appeal their exam marks, in which case three different teacher markers regrade the exam in question. ✓

What about the marking?

While diploma exams are challenging for students, the marking of exams is a "difficult, long and challenging process" for teachers. This year 720 teachers from across Alberta passed up one to two weeks of fun in the sun to mark 68,000 exams.

"The papers get very tedious after a while. They become similar," says Donna Kelly, a teacher from Sir Winston Churchill High School in Calgary. "So you have to stop yourself. You have to think, this is a person. I may be angry because the student approached it differently from how I would expect him or her to approach it. And then I think okay, let's go through it again, let's look at the marking criteria again."

Each exam is scored by three markers independently; marking criteria are established by Alberta Education. A computer checks that marks are consistent. If they're not, a fourth marker rechecks the exam.

Reliability reviews also ensure markers are kept on track.

"Once a day, a paper is chosen by a standards confirming committee and presented to all marking groups. Each marker at the table marks it independently," says Kelly. "The group leader writes down the scores and then we discuss why we gave certain scores."

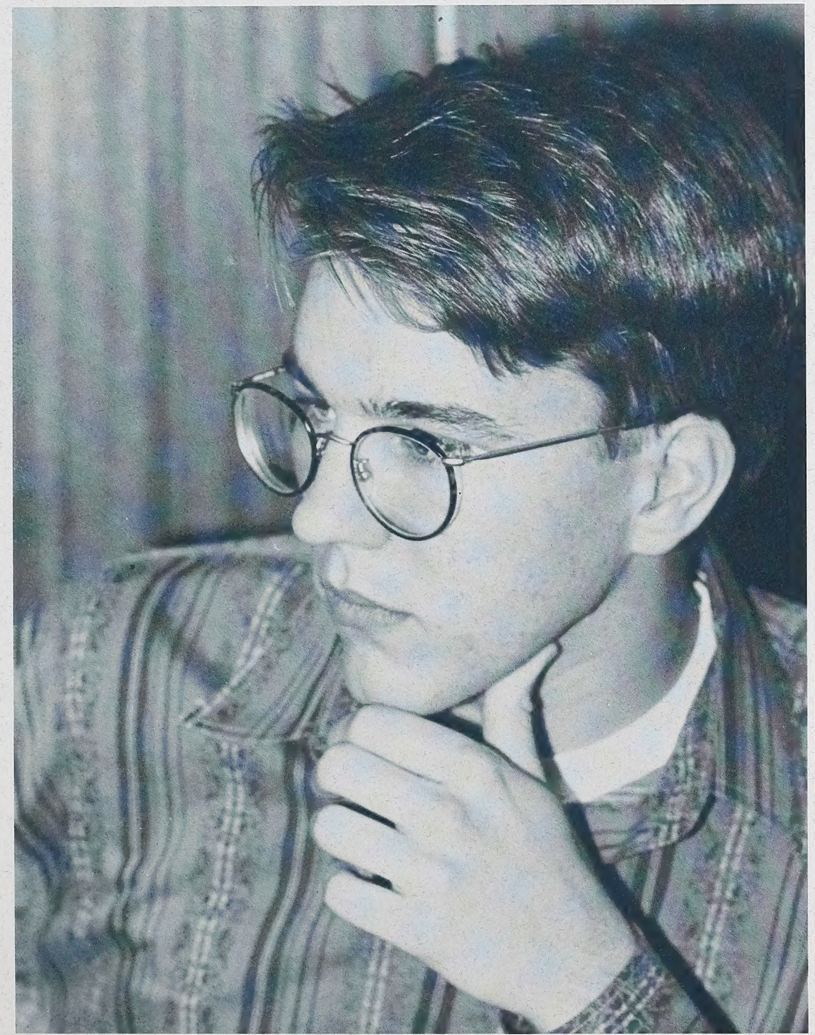
"And there's no sitting on the fence," says Bente Scarnati, a teacher from R.F. Staple Secondary School in Westlock. "You have to justify why you failed, why you passed or why you gave an honours to a paper."

They'll all agree on one thing though and that's the "unbelievable" professional development opportunity marking provides.

"This is better than any convention you could go to," says Kelly. "I feel it is my responsibility to come here. I must be part of the process, in marking my student's papers, in understanding what other teachers are doing and what I'm doing."

Graham Keogh, a teacher at Camille J. Larouge in Red Deer, says the ideas he gets from marking exams and from fellow markers make his classes more stimulating for students. "Especially at this time since we are facing a new Math 30 curriculum in September."

"I have learned a lot from other teachers during the marking process in a purely informal manner," says Gary McFarlane from Medicine Hat High School. "You start talking about a question and one teacher will say, do you do this with your students and you say no I don't but I'm going to." ✓



Chris Boddy starts early in the year to prepare himself for exams.

Yes, they're worth it!

Student Don Bingham says "everything comes to rest on what you've learned in high school."

"If you didn't have high school you couldn't go on to post-secondary education. What you learn is important – not for what it is, but for the technique of learning. In 10 years I'll probably look back and think the diploma exams were extremely easy, after having experienced university exams."

Grade 12 student Marnie Dodd puts it this way: "What I'm learning is how to learn, and I'll need to know that for the rest of my life." ✓

What were students asked?

Students were asked about sequences in this Math 30 exam question:

The first and second terms of a sequence are a and b respectively. One student, assuming that the sequence is arithmetic, determines that the common difference is $\frac{16}{5}$. Another student, assuming that the sequence is geometric, determines that the common ratio is $-\frac{3}{5}$.

a. If the sequence is arithmetic, express b in terms of a.

b. If the sequence is geometric, express b in terms of a.

c. Find the values for a and b that would be consistent with the assumptions of both students.

So why would students have to understand this? Mathematics is the study of patterns and relationships. In Mathematics 30, students do a detailed study of numerical patterns and relationships in a unit called Sequences and Series. Students are expected to represent and generalize patterns and relationships. Students in Mathematics 30 study two such sequences in detail: the arithmetic sequence and the geometric sequence. Here are two examples of arithmetic and geometric sequences:

- The years that the Olympic games are held form a pattern and the pattern can be continued to discover in which year the first Olympic Games of the 21st Century will occur. (1988, 1992, 1996, 2000, 2004!) This is an arithmetic sequence with a common difference of 4.
- Remember the old adage "I told two people, and they told two people" and so on? The numerical representation is 1, 2, 4, 8, 16 ... and the generalized statement is a, 2a, 2^2a, 2^3a, 2^4a .... This is a geometric sequence with a common ratio of 2.

In Social Studies 30, students were asked a series of questions based on this chart. Two of these questions are reprinted below.

A POLITICAL SPECTRUM

LEFT		CENTRE		RIGHT
RADICAL	LIBERAL	CONSERVATIVE		REACTIONARY
POINT I ●	POINT II ●	POINT III ●		POINT IV ●
EQUALITY OF CONDITION	EQUALITY OF OPPORTUNITY	EQUALITY OF RIGHT	ARISTOCRACY	HIERARCHY

Which ideology would be **best** represented at Point I on this spectrum?

A. Fascism
B. Communism
C. Social democracy
D. Classical liberalism

The following issue is being debated in a social studies classroom:

Should governments emphasize individual initiative in their nations' economies?

If Point II on the spectrum represented your beliefs, which of the following claims would **best** express your views on this issue?

A. A public enterprise economy will end exploitation by abolishing all private property.
B. A market-oriented economy is best suited to enhance risk taking and profit making.
C. Mixed economies encourage far too much abuse of state welfare and support systems.
D. Mixed economies provide for the best combination of self-reliance and economic equality.

To be thoughtful and responsible citizens of our community, high school graduates need a good understanding of different political and economic philosophies. To answer the first question, students had to be able to recognize the beliefs associated with four political philosophies. To answer the second question, students had to make a connection between a point on the spectrum and an opinion taken on a broad, societal issue. They had to understand both the economic aspects of the issue and the philosophical aspects of a certain point on the spectrum. By knowing the viewpoints usually expressed by people with left of centre or right of centre beliefs, young Albertans can better understand the ideas of community leaders and politicians. They will then be in a more secure position to judge the worth of these ideas and to make responsible decisions about the future of their lives. ✓

How are students doing? is a publication of Alberta Education. If you have questions or comments about the diploma exams and students' results, please contact Yvonne Johnson or Tom Dunn of the Student Evaluation Branch at 427-2948, or by faxing 422-4200, or by writing to:

Student Evaluation Branch.
8th Floor, West Tower, Devonian Bldg.
11160 Jasper Avenue
Edmonton, Alberta T5K 0L2

If you would like to receive more copies of this newsletter, please call Marcia Wright at 427-0010.

Students First!
Student Evaluation

Alberta
EDUCATION

Printed on Recycled Paper